

OK to D4134 Rev. A 9/10.9.24

Work Order ID 62158

~~PRELIMINARY ISSUE~~



Page 1

Monday, September 20, 2010 8:27:41 AM

Item ID: D4134-042

Accept



Setup Start



Revision ID:

Stop



Item Name: Wearplate, RH Aft

Start Date: 9/17/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 9/24/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 10-9-20

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4134

pb1

100

0.00



FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut D4134-1F as per Dwg D4134

Dwg Rev: pb1

Prog Rev: pb1

2-Deburr if necessary

B10-9-21

2

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

B10-9-21

120

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

- inspect to PB1

Dwg only

8/10/12

72

Work Order ID 62158

Monday, September 20, 2010 8:27:41 AM



Page 2

Item ID: D4134-042

Accept



Setup Start



Revision ID:

Stop



Item Name: Wearplate, RH Aft

Start Date: 9/17/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 9/24/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130



Brake NC

Form as per dwg
NC BRAKE

0.00

Memo

0.00

Brake NC

1- Form using DT _____ Die as per Dwg D4134

10-09-27

10-09-27 (2)

140



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

10-09-27

(2)

150



Large Fab

Large Fab

Weld per dwg A/R Hardcoat S.S. Batch: M15553 0.00
Large Fab

Memo

0.00




Weld hard surface using DT _____ as per QSI 004 and Dwg D4134



10-09-28 (2)




Work Order ID 62158

Monday, September 20, 2010 8:27:41 AM

Page 4

Item ID:	D4134-042	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Wearplate, RH Aft					
Start Date:	9/17/2010	Start Qty:	2.00		Cust Item ID:	
Required Date:	9/24/2010	Req'd Qty:	2.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00		⇒ 341 10109129		2	0		
200  Small Fab Small Fab	Memo 1- Bond D4134-3 gasket to inner surface of wearplate using a thin layer of 3M 1300/1300L scotch grip adhesive Batch: M115230	0.00 0.00							
210  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							

9/20/09/29 (2)

10.09.29 (2)

POSITIVE RECALL
EFFECTIVE 10.09.29 AUTH U
RELEASED 10.09.29

Work Order ID 62158

Monday, September 20, 2010 8:27:41 AM



Page 5

Item ID: D4134-042

Accept



Setup Start



Revision ID:

Stop



Item Name: Wearplate, RH Aft

Start Date: 9/17/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 9/24/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

Identify as per dwg & Stock Location: _____

0.00



Packaging

Packaging

Memo

0.00

Packaging

RB 10.09.29 (2)

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/09/29 DJ

u 10.09.29

Picklist Print

Monday, September 20, 2010 8:27:47 AM

Page 1

Work Order ID: 62158

Parent Item: D4134-042

Parent Item Name: Wearplate, RH Aft

Start Date: 9/17/2010

Required Date: 9/24/2010

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A 10.06.25 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304S18GA

Purchased

No

100

sf

148.0479

1.5825

3.331579



304/316 .050 Sheet



10-9-21

Location

Loc Qty

Loc Code

MAT20

148.0479

111743

7.36

112885

18.5179

113062

58.17

115389

64

D4134-3

Manufactured

No

200

Each

0.0000

1



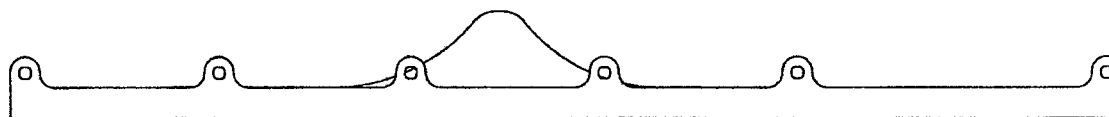
Gasket



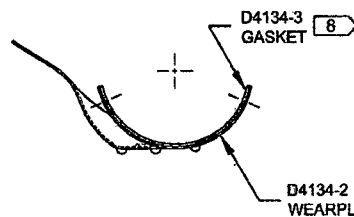
B62160 PBI

9/20/09/28

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-042		
X	X	D4134-041	WEARPLATE, LH AFT
	X	D4134-042	WEARPLATE, RH AFT
1		D4134-1	WEARPLATE
1	1	D4134-2	WEARPLATE
1	1	D4134-3	GASKET
A/R	A/R	1300 / 1300L	3M SCOTCH-GRIP ADHESIVE



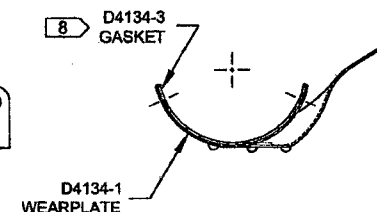
D4134-041 WEARPLATE, LH AFT



D4134-2 WEARPLATE



D4134-042 WEARPLATE, RH AFT



D4134-1 WEARPLATE

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI/018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4134-xxx" USING YELLOW PAINT MARKER ON INSIDE SURFACE
- 7) WEIGHT: -041/-042 = 2.2 lbs
- 8) BOND D4134-3 GASKET TO INNER SURFACE OF WEARPLATE USING A THIN LAYER OF 3M 1300/1300L SCOTCH GRIP ADHESIVE

P B I	0.450 WAS 0.300	CP	10.09.15
A	NEW ISSUE	CP	10.06.15
REV.	DESCRIPTION	BY	DATE
DESIGN	DP		
DRAWN	DP		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.09.15		

DART AEROSPACE USA, INC
PORT HADLOCK, WA

DRAWING NO. **D4134** REV. **B**
SHEET 1 OF 6

TITLE **WEARPLATE, AFT** SCALE **NTS**

COPYRIGHT © 2010 BY DART AEROSPACE USA, INC
THIS DOCUMENT IS UNCLASSIFIED AND IS RELEASED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSES OR CONSIDERED AS CONFIDENTIAL TO ANY OTHER POWER WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

62158 PRELIMINARY ISSUE

9/10/09.15

8 7 6 5 4 3 2 1

D

D

C

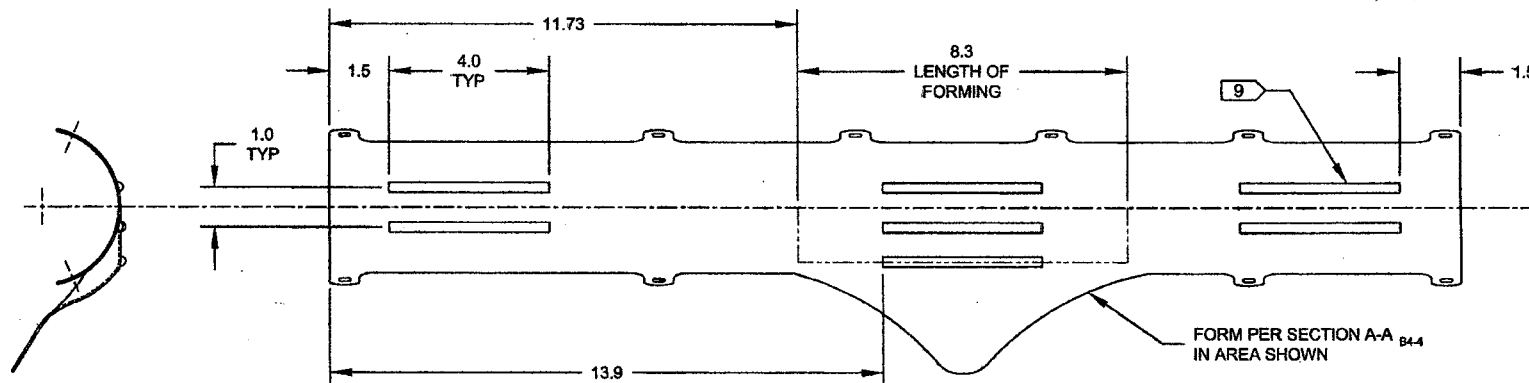
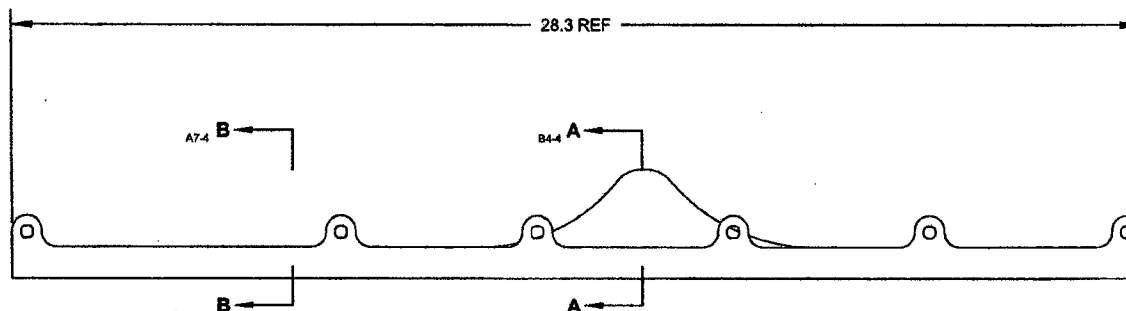
C

B

B

A

A



D4134-2 WEARPLATE, RH

62158

PRELIMINARY ISSUE

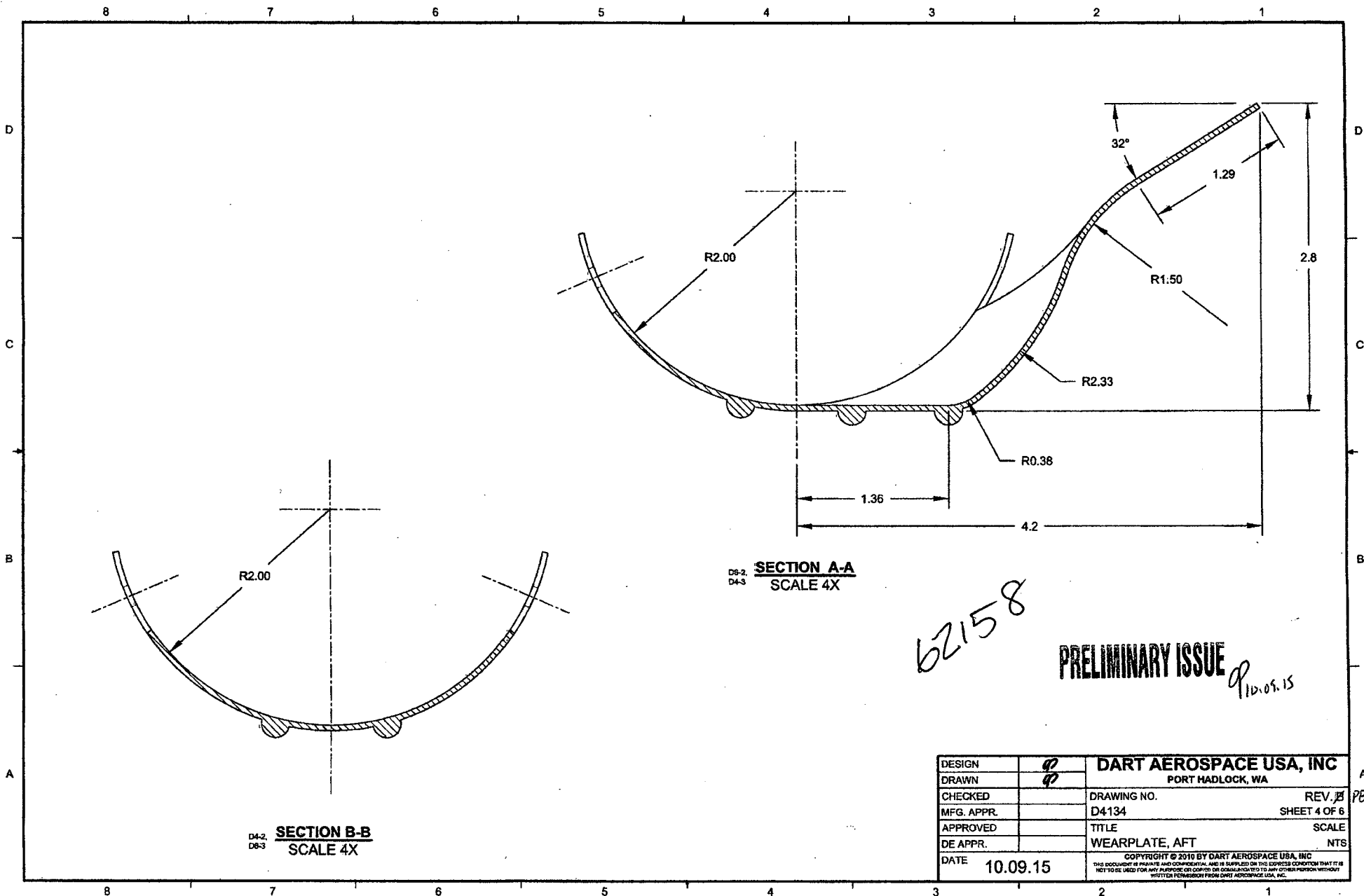
P. 0.15

NOTES:

- 1) MATERIAL: MAKE FROM D4134-1F
- 2) FINISH: POWDER COAT "GREY SANDTEX" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.8 lbs
- 8) WELD PER QSI 004
- 9) 2059B HARDCOAT WELDS, 0.063 TO 0.125 HIGH

DESIGN	<i>DP</i>	DART AEROSPACE USA, INC	
DRAWN	<i>DP</i>	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. <i>DP</i>
MFG. APPR.		D4134	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE, AFT	NTS
DATE	10.09.15	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8 7 6 5 4 3 2 1



D6-2
D4-3 **SECTION A-A**
SCALE 4X

D4-2
D6-3 **SECTION B-B**
SCALE 4X

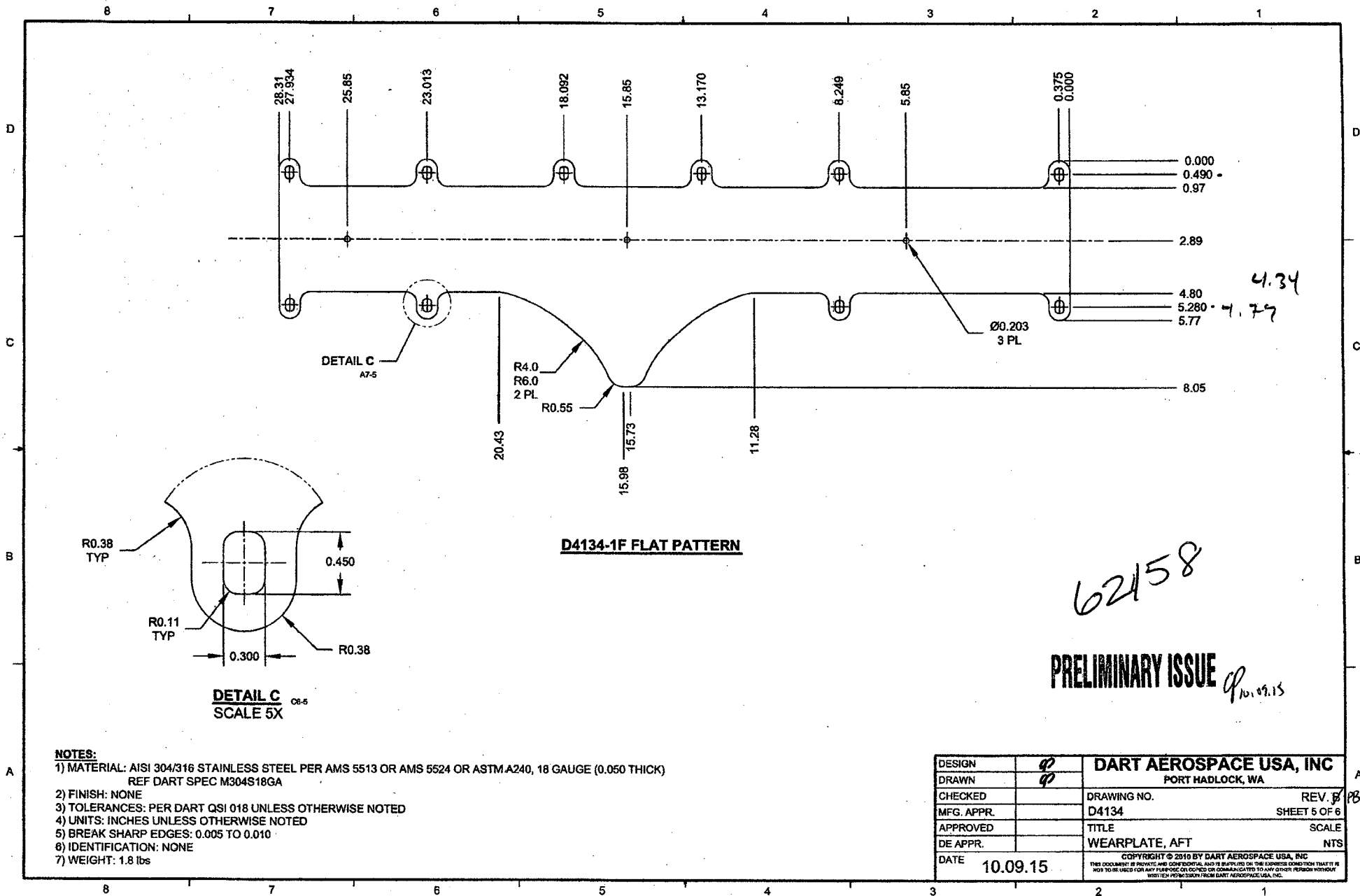
62158

PRELIMINARY ISSUE

10.09.15

DESIGN	<i>Q</i>	DART AEROSPACE USA, INC	
DRAWN	<i>Q</i>	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. <i>B</i>
MFG. APPR.		D4134	SHEET 4 OF 6
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE, AFT	NTS
DATE	10.09.15	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRELIMINARY AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

A
PB)



DART AEROSPACE LTD		Work Order: 62-158
Description: WEAR PLATE		Part Number: D4134-041
Inspection Dwg: D4134-1 Rev: pbl		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø .203	+ .005 - .001	.203	X		V HB02	
.490	± .010	.485	Ø		V	
.97	± .030	.963	Ø		V	
2.89	± .030	2.886	Ø		V	
4.80	± .030	4.794	Ø		V	
5.280	± .010	5.279	Ø		V	
5.77	± .030	5.765	Ø		V	
8.05	± .030	8.000				OK CP 10.05.22
.375	± .010	.375	Ø		V	
5.85	± .030	5.852	Ø		V	
8.249	± .010	8.249	Ø		V PRO 02	
13.170	± .010	13.170	Ø		T	
15.85	± .030	15.85	Ø		T	
15.73	± .030	15.73	Ø		T	
15.98	± .030	15.98	Ø		T	
18.092	± .010	18.092	Ø		T	
23.013	± .010	23.013	Ø		T	
25.85	± .030	25.85	Ø		T	
27.934	± .010	27.934	Ø		T	
28.31	± .030	28.31	Ø		T	
.450	± .010	.452	Ø		V	
.300	± .010	.303	Ø		V	
.063	± .010	.047	Ø		V	

Measured by: RB	Audited by: S	Prototype Approval: N/A
Date: 10-9-21	Date: 10/01/22	Date: N/A
#415 p. 10 to p. 11 Day on 7		Revised by: KJ/JLM
Rev A	Date	Change
		New Issue
		Approved

Dart Aerospace Ltd

W/O: 62158		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10.09.29	160	Acceptable to D4134 Rev A REF ATTACHED EMAIL	CP	10.09.29		CP 10.09.29 49642	

Part No: D4134-042 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Chris Provencal

From: David Shepherd [dshepherd@dartaero.com]
Sent: September 29, 2010 2:19 PM
To: 'Chris Provencal'
Cc: 'Marc Bellavance'; 'Mike Petsche'; 'Dan Stow'
Subject: RE: Wearplate photos

No ... ship the wearplates.

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Wednesday, September 29, 2010 12:00 PM
To: 'David Shepherd'
Cc: 'Marc Bellavance'; 'Mike Petsche'; 'Dan Stow'
Subject: RE: Wearplate photos

David,

I am signing off the wearplates based on Rev. A of the dwgs, with the deviation that the wearplates are 0.150 wider. Additionally, on the fwd wearplate, one tab is shifted 0.050" aft, and another tab is shifted .150" aft. This is a minor, non-structural, change to improve fit on the skidtube.

On that basis, do you have any objection to shipping the wearplates today?

-Chris

From: Dan Stow [mailto:dstow@dartaero.com]
Sent: September 29, 2010 12:54 PM
To: 'Mike Petsche'
Cc: 'David Shepherd'; Chris Provencal; 'Marc Bellavance'
Subject: FW: Wearplate photos
Importance: High

Mike,

Can I tell the customer that we are shipping the wearplates today?

Dan

Hello Francesco,

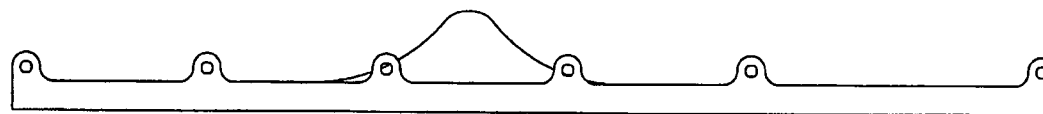
Please see the response from engineering below.

Regards,

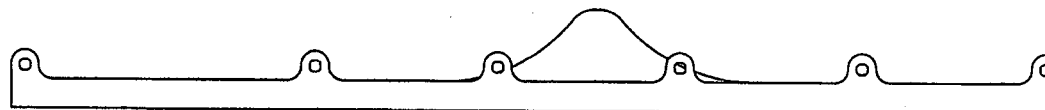
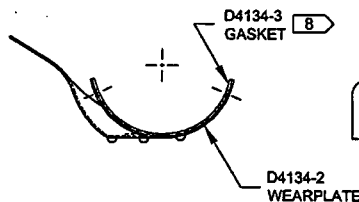
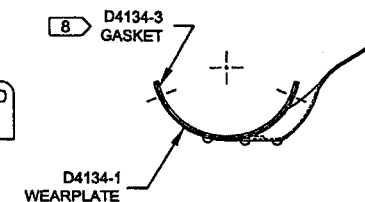
Dan Stow
Technical Support
Dart Aerospace Ltd.
dstow@dartaero.com

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X		D4134-041	WEARPLATE, LH AFT
	X	D4134-042	WEARPLATE, RH AFT
1		D4134-1	WEARPLATE
1	1	D4134-2	WEARPLATE
1	1	D4134-3	GASKET
A/R	A/R	1300 / 1300L	3M SCOTCH-GRIP ADHESIVE

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 62158



D4134-041 WEARPLATE, LH AFT



D4134-042 WEARPLATE, RH AFT

RELEASED
2010-06-28
N

NOTES:

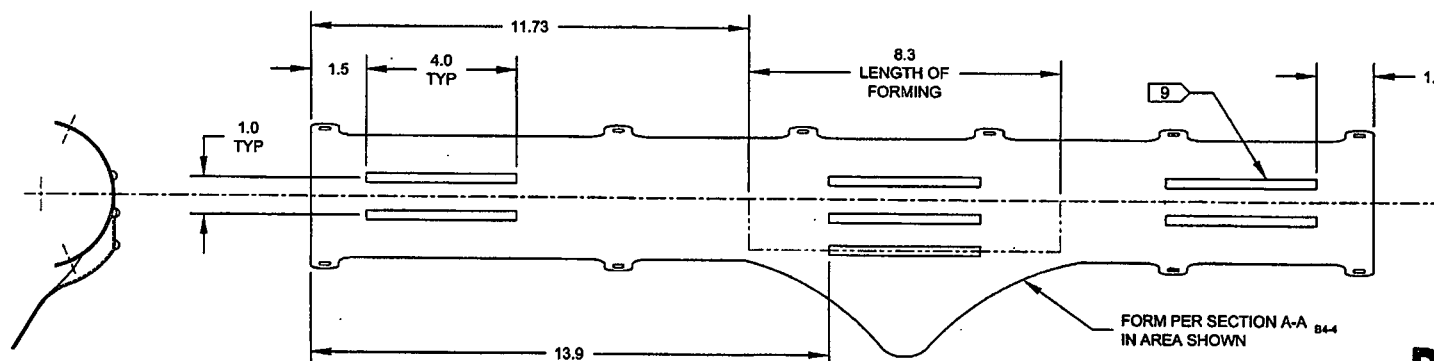
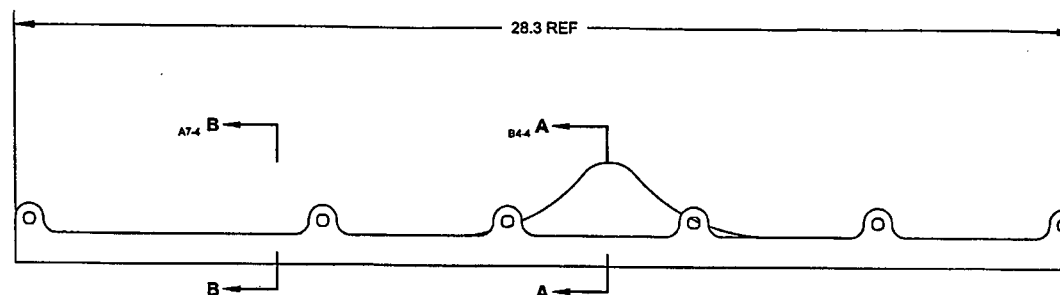
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4134-xxx" USING YELLOW PAINT MARKER ON INSIDE SURFACE
- 7) WEIGHT: -041/-042 = 2.2 lbs
- 8) BOND D4134-3 GASKET TO INNER SURFACE OF WEARPLATE USING A THIN LAYER OF 3M 1300/1300L SCOTCH GRIP ADHESIVE

REV.	NEW ISSUE	DESCRIPTION	CP	10.06.15
DESIGN			BY	DATE
DRAWN				
CHECKED				
MFG. APPR.				
APPROVED				
DE APPR.				
DATE	10.06.15			

DART AEROSPACE USA, INC
PORT HADLOCK, WA
DRAWING NO. D4134
TITLE WEARPLATE, AFT
REV. A
SHEET 1 OF 6
SCALE NTS

COPYRIGHT © 2010 BY DART AEROSPACE USA, INC
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 62158



D4134-2 WEARPLATE, RH

NOTES:

- 1) MATERIAL: MAKE FROM D4134-1F
- 2) FINISH: POWDER COAT "GREY SANDEXT" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.8 lbs
- 8) WELD PER QSI 004
- 9) 2059B HARDCOAT WELDS, 0.063 TO 0.125 HIGH

RELEASED
2010-06-29

DESIGN	92	DART AEROSPACE USA, INC	
DRAWN	92	PORT HADLOCK, WA	
CHECKED	92	DRAWING NO.	REV. A
MFG. APPR.	92	D4134	SHEET 3 OF 6
APPROVED	92	TITLE	SCALE
DE APPR.	92	WEARPLATE, AFT	NTS
DATE	10.06.15	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	